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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/688,914

10/21/2003

Bong-Ki kim

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STEIN, MCEWEN & BUI, LLP
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EXAMINER

CANTELMO, GREGG

ART UNIT

PAPER NUMBER

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/688,914

Applicant(s)

KIM, BONG-KI

Examiner

Gregg Cantelmo

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-12,14 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-12,14 and 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. In response to the amendment received December 21, 2006:
 - a. Claims 1-4, 6-12, 14 and 21-25 are pending. Claims 5, 13 and 16-20 have been cancelled as per Applicant's request;
 - b. The 112 rejections have been withdrawn in light of the amendment;
 - c. The prior art rejections of record stand as modified, the new grounds of rejection necessitated by amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

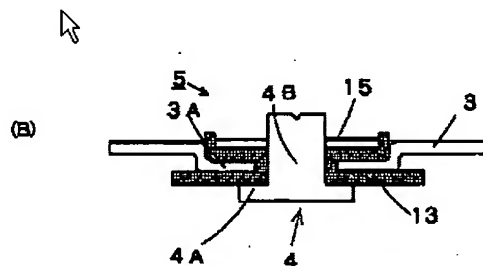
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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2. Claims 1, 2, 6, 8, 10, 11, 14 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '917 in view of either JP 03-049152 (JP '152) or JP 61-008846 (JP '846).

JP '917 discloses cap assembly in Fig. 1B comprising a cap plate 3 having a port aperture through which an electrode port 4B is inserted, and an insulating member 13 disposed between the cap plate 3 and the electrode port 4B to insulate the cap plate 3 and the electrode port 4B and to tightly bind the electrode port 4B to the cap plate 3 wherein the insulating member 13, cap plate 3 and electrode port 4B form a single integrated body (Fig. 1B as applied to claim 1).



The insulating member is provided in the same relationship as defined in claim 1, claim 2 serving to further define the insulating member via a particular process. Thus claim 2 has been interpreted as a product-by-process claim. Since the prior art structure of claim 2 is identical to that of JP '917, the product of claim 2 is still anticipated by JP '917. It should be further noted that the insulating material 13 is made by insertion molding (paragraph [0009] as applied to claim 2).

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-

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process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

“The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

JP '917 discloses an insulator 13 wherein the insulation has a first portion interposed between the head of the plate and a top surface of the plate 3, a second insulator interposed between an inner wall of the port and the outer surface of the electrode port 4 and a third insulator 13 laterally extending from the second insulator to contact a bottom surface of plate 3 (Figs. 1B and 2 as applied to claim 6).

A port plate 15 is provided on a surface of insulating member 13 and since it is of a conductive material and in direct contact with the electrode port 4B, is held to be electrically connected to the electrode port 4B (Fig. 2 as applied to claim 8).

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JP '917 discloses secondary battery (Fig. 3) comprising a battery unit having a negative plate, separator and positive plate stacked upon one another and rolled; a can in which the unit is accommodated (Fig. 3 and paragraph [0003]) and a cap assembly covering the top of the can as shown in Figs. 1B and 3 comprising a cap plate 3 having a port aperture through which an electrode port 4B is inserted, and an insulating member 13 disposed between the cap plate 3 and the electrode port 4B to insulate the cap plate 3 and the electrode port 4B and to tightly bind the electrode port 4B to the cap plate 3 wherein the insulating member 13, cap plate 3 and electrode port 4B form a single integrated body, where electrode tabs are drawn out from the negative and positive plates of the battery and selectively electrically connected to the can (Figs. 1B, 3 and 4B as applied to claim 10).

The insulating member is provided in the same relationship as defined in claim 10, claim 11 serving to further define the insulating member via a particular process. Thus claim 11 has been interpreted as a product-by-process claim. Since the prior art structure of claim 11 is identical to that of JP '917, the product of claim 11 is still anticipated by JP '917. It should be further noted that the insulating material 13 is made by insertion molding (paragraph [0009] as applied to claim 11).

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is

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unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

“The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

JP '917 discloses an insulator 13 wherein the insulation has a first portion interposed between the head of the plate and a top surface of the plate 3, a second insulator interposed between an inner wall of the port and the outer surface of the electrode port 4 and a third insulator 13 laterally extending from the second insulator to contact a bottom surface of plate 3 (Figs. 1B and 2 as applied to claim 14).

The end of the insertion end is provided at the end of the electrode port when inserted into the port aperture (claim 22) and includes an extension portion which extends into the body (see Figs as applied to claim 24) and is electrically connected to a respective tab of the battery (as applied to claim 25).

The differences between claims 1, 10, 21 and 23 and JP '917 are that JP '917 does not teach of an electrode port including a head and an insertion whose diameter steadily increases from the head to an end thereof, the insertion being inserted into the port aperture up to the head (claims 1 and 10) or of the diameter linearly increasing from head to end (claims 21 and 23)

JP '917 does teach of an electrode port including a head and body.

JP '152 teaches that it is known to tape the body of an electrode port which is inserted into and through the housing of a battery (see Fig. 5) and has a diameter which increases from head to end. JP '846 discloses a similar arrangement (see Figs. 1-4).

The motivation for tapering the body is to improve the seal between the electrode port tapered surface and the opening of the battery housing.

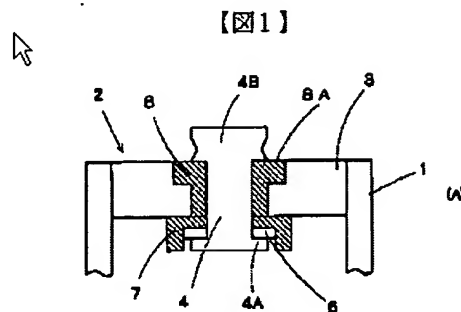
Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '917 by tapering the electrode port body as taught by either JP '152 or JP '846 since it would have improved the seal of the mating surfaces of the electrode port body and battery housing.

3. Claims 1-2, 6, 7-11, 14 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '577 in view of either JP 03-049152 (JP '152) or JP '846.

JP '577 discloses cap assembly in Fig. 1 comprising a cap plate 3 having a port aperture through which an electrode port 4 is inserted, and an insulating member 7/8 disposed between the cap plate 3 and the electrode port 4 to insulate the cap plate 3 and the electrode port 4 and to tightly bind the electrode port 4 to the cap plate 3

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wherein the insulating member 7/8, cap plate 3 and electrode port 4 form a single integrated body (Fig. 1Bas applied to claim 1).



The insulating member is provided in the same relationship as defined in claim 1, claim 2 serving to further define the insulating member via a particular process. Thus claim 2 has been interpreted as a product-by-process claim. Since the prior art structure of claim 2 is identical to that of JP '577, the product of claim 2 is still anticipated by JP '917.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d

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742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). *Ex parte Gray*, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

The end portions 4A and 4B of the electrode port 4 are drawn out to support a surface of the insulating member upward toward plate 3 (Fig. 1 as applied to claims 7 and 9).

A port plate 6 is provided on a surface of insulating member 7 and since it is of a conductive material and in direct contact with the electrode port 4, is held to be electrically connected to the electrode port 4 (Fig. 1 as applied to claim 8).

JP '577 discloses secondary battery comprising a battery unit having a negative plate, separator and positive plate stacked upon one another and rolled; a can in which the unit is accommodated and a cap assembly covering the top of the can as shown in Fig. 1 comprising a cap plate 3 having a port aperture through which an electrode port 4 is inserted, and an insulating member 7/8 disposed between the cap plate 3 and the electrode port 4 to insulate the cap plate 3 and the electrode port 4 and to tightly bind the electrode port 4 to the cap plate 3 wherein the insulating member 7/8, cap plate 3 and electrode port 4 form a single integrated body, where electrode tabs are drawn out from

the negative and positive plates of the battery and selectively electrically connected to the can (Figs. 1 as applied to claim 10).

The insulating member is provided in the same relationship as defined in claim 10; claim 11 serving to further define the insulating member via a particular process. Thus claim 11 has been interpreted as a product-by-process claim. Since the prior art structure of claim 11 is identical to that of JP '577, the product of claim 11 is still anticipated by JP '577.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292

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(Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

JP '577 discloses an insulator 7/8 wherein the insulation has a first portion interposed between the head of the plate and a top surface of the plate 3, a second insulator interposed between an inner wall of the port and the outer surface of the electrode port 4 and a third insulator 7 laterally extending from the second insulator to contact a bottom surface of plate 3 (Fig. 1 as applied to claims 6 and 14).

The end of the insertion end is provided at the end of the electrode port when inserted into the port aperture (claim 22) and includes an extension portion which extends into the body (see Figs as applied to claim 24) and is electrically connected to a respective tab of the battery (as applied to claim 25).

The difference between claim 1, 10m 21 and 23 and JP '577 is that JP '577 does not teach of an electrode port including a head and an insertion whose diameter steadily increases from the head to an end thereof, the insertion being inserted into the port aperture up to the head (claims 1 and 10) or of the diameter linearly increasing from head to end (claims 21 and 23)

JP '577 does teach of an electrode port including a head and body.

JP '152 teaches that it is known to tape the body of an electrode port which is inserted into and through the housing of a battery (see Fig. 5) and has a diameter which increases from head to end. JP '846 discloses a similar arrangement (see Figs. 1-4).

The motivation for tapering the body is to improve the seal between the electrode port tapered surface and the opening of the battery housing.

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Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '577 by tapering the electrode port body as taught by either JP '152 or JP '846 since it would have improved the seal of the

4. Claims 3, 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over either JP '917 or JP '577 each in view of either JP '152 or JP '846 and in further view of GB 2111295 A (GB '295).

The teachings of JP '917, JP '577, JP '152 and JP '846 have been discussed above and are incorporated herein, independent of one another.

The differences between these references and claims 3, 4 and 12 are that neither JP '917 nor JP '577 teaches of the claimed auxiliary binding unit.

GB '295 discloses a battery seal in Fig. 7 wherein the terminal portion of the plate 23 includes a feature 43a which is broadly construed as an auxiliary binding unit to improve the seal between the plate and insulation. This feature includes mating groove features in both the cap plate 43 and seal 45 (as applied to claims 3, 4 and 12).

The motivation for using the arrangement of Fig. 7 of GB '295 wherein an auxiliary binding unit is provided between the cap plate and insulation is that it improves the seal of the battery (page 2, ll. 79-92).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of either JP '917 or JP '577 by providing an auxiliary binding unit between the cap plate and insulation since it would have improved the seal of the battery.

Response to Arguments

5. Applicant's arguments with respect to claims 1-4, 6-12, 14 and 21-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is 571-272-1283. The examiner can normally be reached on Monday to Thursday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



gc

March 15, 2007

Gregg Cantelmo
Primary Examiner
Art Unit 1745